



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/766,934	01/30/2004	Yoshihiro Ochiai	018842.1288	3958
24735 7590 10/28/2008 BAKER BOTTS LLP C/O INTELLECTUAL PROPERTY DEPARTMENT THE WARNER, SUITE 1300 1299 PENNSYLVANIA AVE., NW WASHINGTON, DC 20004-2400				
EXAMINER				
HAMO, PATRICK				
ART UNIT		PAPER NUMBER		
3746				
NOTIFICATION DATE		DELIVERY MODE		
10/28/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

usptocorrespondence@bakerbotts.com

darlene.hoskins@bakerbotts.com

oneka.davis@bakerbotts.com

Office Action Summary

Application No.

10/766,934

Applicant(s)

OCHIAI, YOSHIHIRO

Examiner

PATRICK HAMO

Art Unit

3746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 22, 2008 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

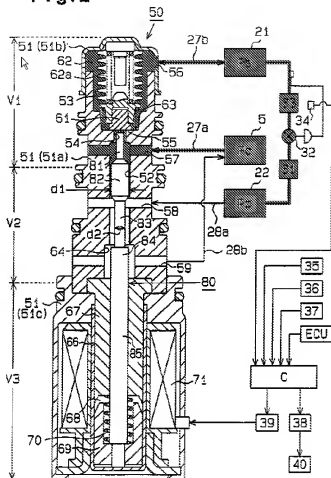
Claims 1, 2, 7, 8, 13-16 rejected under 35 U.S.C. 102(b) as being anticipated by Ota, US 6,361,283.

In regard to claim 1:

Ota discloses a control valve system for a variable displacement swash plate compressor (see fig. 1) including a valve portion V1 (see embodiment of fig. 7) that is interpreted as a throttling valve and a second valve portion V2 that is interpreted as a constant differential pressure valve. When solenoid coils 71 are energized, rod 80

protrudes into valve seat 61, opening the throttling valve to a certain degree based on external information detecting means (see, for example, col. 6, ll. 35-43), allowing crank chamber 5 fluid into the suction chamber 21. When the pressure difference between the suction chamber (which supplies the fluid to the upstream side portion of valve V1) and crank chamber (downstream side portion) is reduced, bellows 62 expand and push down the rod 80 to open valve portion V2, introducing fluid from discharge chamber 22 into the crank chamber. Solenoid valve V3 constitutes the control means for determining the opening degree of the throttling valve. In regard to the limitation that the upstream portion and the downstream portion of the throttling valve are positioned between the crank chamber and a discharge chamber, because the fluid lines of the variable displacement compressor and its control valve system are continuous, this holds in a fluidic sense. See a recreation of figure 2 below for clarification:

Fig. 2



The highlighted portion of the fluid line begins with the discharge chamber 5 and ends with the crank chamber 22, and includes both the upstream and downstream sides of valve V1 in between.

In regard to claim 2:

As rod portion 81 is required to press into the valve seat to open throttling valve, it is reasonable to consider it as part of the throttling valve assembly. Thus, it is integral

with rod portion 84, which constitutes the constant differential pressure valve. As mentioned above, electromagnetic valve portion V3 controls the throttling valve, and it is also reasonable to interpret this as part of the throttling valve.

In regard to claims 3, 5, 6, 9, 11 and 12:

Chamber 73, from where discharge gas flows into the crank chamber, is directly upstream of the throttling valve and includes tangential inlets 77.

In regard to claims 7, 8, 13 and 14:

Bellows 62, as part of the throttling valve, senses a pressure difference between P_c and P_s , constituting the upstream and downstream positions of the throttling valve. Therefore, the bellows acts as both an upstream and downstream-side pressure receiving portion.

In regard to claims 15 and 16:

Temperature sensors 34-36 provide information relating to the thermal load of the compressor, and the ECU shown in fig. 2 provides information about the state of the engine (col. 6, ll. 35-43).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 4 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ota in view of Hayashi et al., US Pub. No. 2003/0031569 as presented in the prior action.

Ota discloses all of the limitations substantially as claimed except for the following: a cutoff valve disposed on the downstream side of the throttling valve.

However, Hayashi teaches a variable displacement compressor with a cutoff or check valve 38 downstream of the discharge chamber 132 and control valve 41 that is urged to stop when the inclination angle of the swash plate 23 is at a minimum (in which case the air compressor is not operating), which stops the circulation of the refrigerant gas (p. 3, paragraph 38).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to have modified the variable displacement compressor of Ota with the check valve of Hayashi to stop a refrigerant circulation when the compressor is not operating.

Response to Arguments

Applicant's arguments filed July 22, 2008 have been fully considered but they are not persuasive. The arguments only present that the prior art of record failed to teach

the newly added limitations. However, all of these limitations were addressed in the rejection above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PATRICK HAMO whose telephone number is (571)272-3492. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on 571-272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/Patrick Hamo/

Application/Control Number: 10/766,934

Page 8

Art Unit: 3746

Patent Examiner, AU 3746